

OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **KEZAR LAKE** the program coordinators recommend the following actions.

Thank you once again to all of the Kezar Lake volunteers who spend so much of their time collecting samples from the lake and its tributaries. It is through the dedication of these monitors that Kezar Lake is able to carry out one of the most stringent monitoring programs in the state. Thank you for your continued concern for the water quality of Kezar Lake.

FIGURE INTERPRETATION

Please note, the figures in these reports represent the average monthly results for each parameter. This is meant to show a better interpretation of the lake's water quality.

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show an *improving* in-lake chlorophyll-a trend, meaning concentrations are decreasing. There was only a slight increase in the average concentration in July due to the elevated value on 7/10, but the increase was not excessive. This year's average concentration was less than in 1999, and the average remains below the mean for New Hampshire lakes. While algae are present in all lakes, an excess amount of any type is not welcomed. Algal concentrations can increase when there are external and internal sources of phosphorus. Phosphorus is the nutrient that algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.
- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *stable* trend in lake transparency. The June and July averages were slightly lower than the latter part of the summer, but

these may have been affected by higher amounts of rain during those months. This year's average was lower than last year's and is still below the New Hampshire mean. The 2000 sampling season was considered wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity. Efforts should be made to stabilize stream banks, lake shorelines, and disturbed soils in the watershed. Guides to Best Management Practices are available from NHDES upon request.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show an *improving* trend for in-lake phosphorus levels, which means levels are generally decreasing. The averages of both layers were only slightly elevated from the 1999 season. The epilimnetic average remains below the state median, while the hypolimnetic average is only slightly more than the state median. Rains around the time of sampling may have influenced the higher July total phosphorus average, as well as the elevated algal levels. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- In 2000, small amounts of the blue-green algae *Oscillatoria* and *Anabaena* were observed in the plankton sample (Table 2). As you know, blue-green algae can reach nuisance levels when sufficient nutrients and favorable environmental conditions are present. While overall algal abundance continues to be low in the lake, the presence of these indicator species should serve as a reminder of the lake's delicate balance. Continued care to protect the watershed by limiting or eliminating fertilizer use on lawns, keeping the lake shoreline natural, and properly maintaining septic systems and roads will keep algae populations in balance.
- This year's in-lake and tributary conductivity levels were reduced from the 1999 season (Table 6), which reinforces our thoughts from last year's report. We suggested the higher conductivity levels last year were due to the dry weather New Hampshire experienced. With the increase of rains this year pollutants and nutrients were not

concentrated in the tributaries. We were glad to see the reduction in conductivity throughout the watershed.

- The average phosphorus concentration in the Inlet this year was the lowest value since Kezar Lake joined VLAP in 1988 (Table 8). The averages for the Outlet and Lyon Bk at Trussel were elevated from last year's values. The high concentrations for the Outlet and Lyon Bk at Trussel were preceded by a weekend of 1 to 5 inches of rain (see Notes section below), which could have caused nutrients to wash into these tributaries. The averages for both of these tributaries are not excessive; they are considered to be average for New Hampshire's lakes.
- The turbidity of the hypolimnetic samples was high throughout most of the summer (Table 11), although the average was one of the lowest observed in Kezar Lake since 1993.
- The dissolved oxygen was once again low in the bottom meters of the lake for the duration of the summer (Tables 9 and 10). This is not unusual for Kezar Lake, although last year the concentrations were higher in May and July. We will continue to watch the concentration of dissolved oxygen in the lake.
- A new culvert was installed at the Inlet site in late August and early September. A DES biologist collected three samples on September 1 for turbidity analyses. The construction workers had 4 silt fences in place in the Inlet below the culvert. The sample sites and results are listed here: between 2nd and 3rd fences, 39 NTU; between 3rd and 4th fences, 2.9 NTU; below silt fences, 1.79 NTU. It is evident that the silt fences were collecting any sediment that washed into the Inlet before reaching the lake.
- The Lyon Bk feeder project was continued in the spring and early summer months. The four sites were tested in May, June, and July and were found to have good water quality (see Tables 6, 8, and 11). King Hill Bk was also tested in those months and also had good water quality.
- Lake testing in 2000 showed that Kezar Lake's quality met the standards required by the court Consent Decree.

NOTES

- Monitor's Note (6/12/00): Rained 0.8 inches yesterday.
- Monitor's Note (6/26/00): Heavy thunderstorms and one-inch rain at Enroth's yesterday.
- Monitor's Note (7/10/00): Rained 1 inch yesterday.

- Monitor's Note (7/17/00): Observed bits of foam at Inlet and Lyon Brook at Trussel where water was turbulent; 1-5 inches rain on weekend.
- Monitor's Note (8/7/00): Raining during sampling.
- Monitor's Note (9/6/00): Inlet sample taken below silt fences (new Penacook Bridge).

USEFUL RESOURCES

Wetlands: More Important Than You Think, NHDES Booklet, (603) 271-3503 or www.state.nh.us

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, WD-BB-9, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

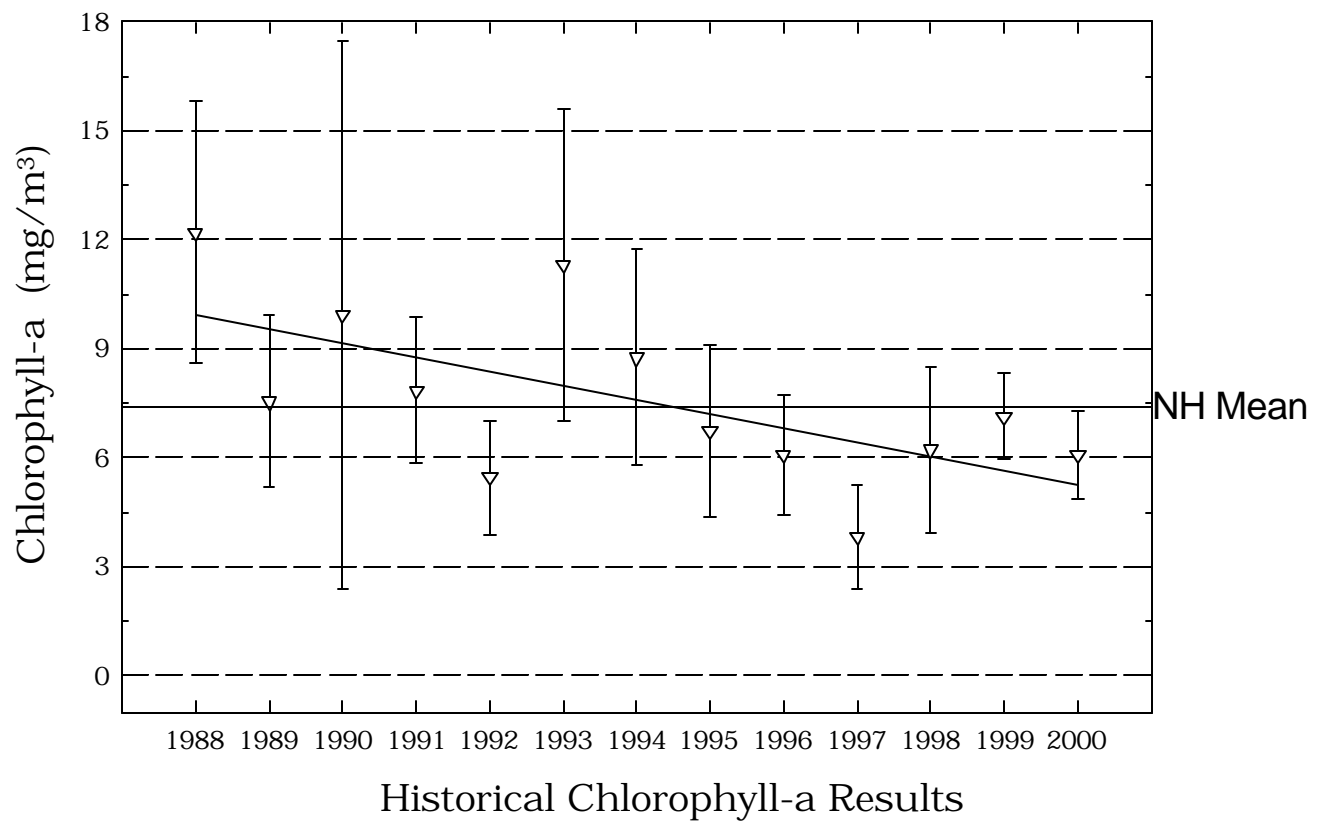
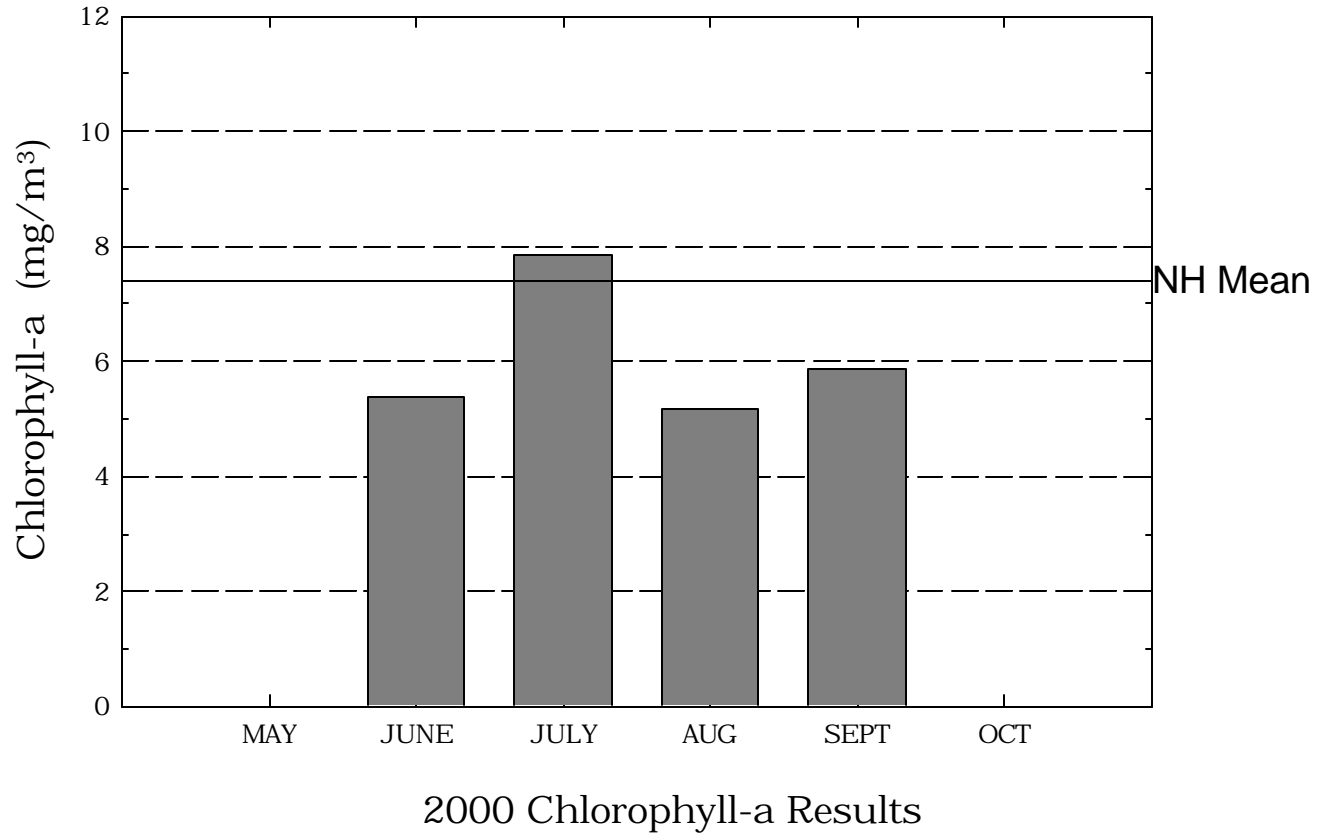
Anthropogenic Phosphorus and New Hampshire Waterbodies, NHDES-WSPCD-95-6, NHDES Booklet, (603) 271-3503

Answers to Common Lake Questions, NHDES-WSPCD-92-12, NHDES Booklet, (603) 271-3503.

Soil Erosion and Sediment Control on Construction Sites, WD-WEB-12, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

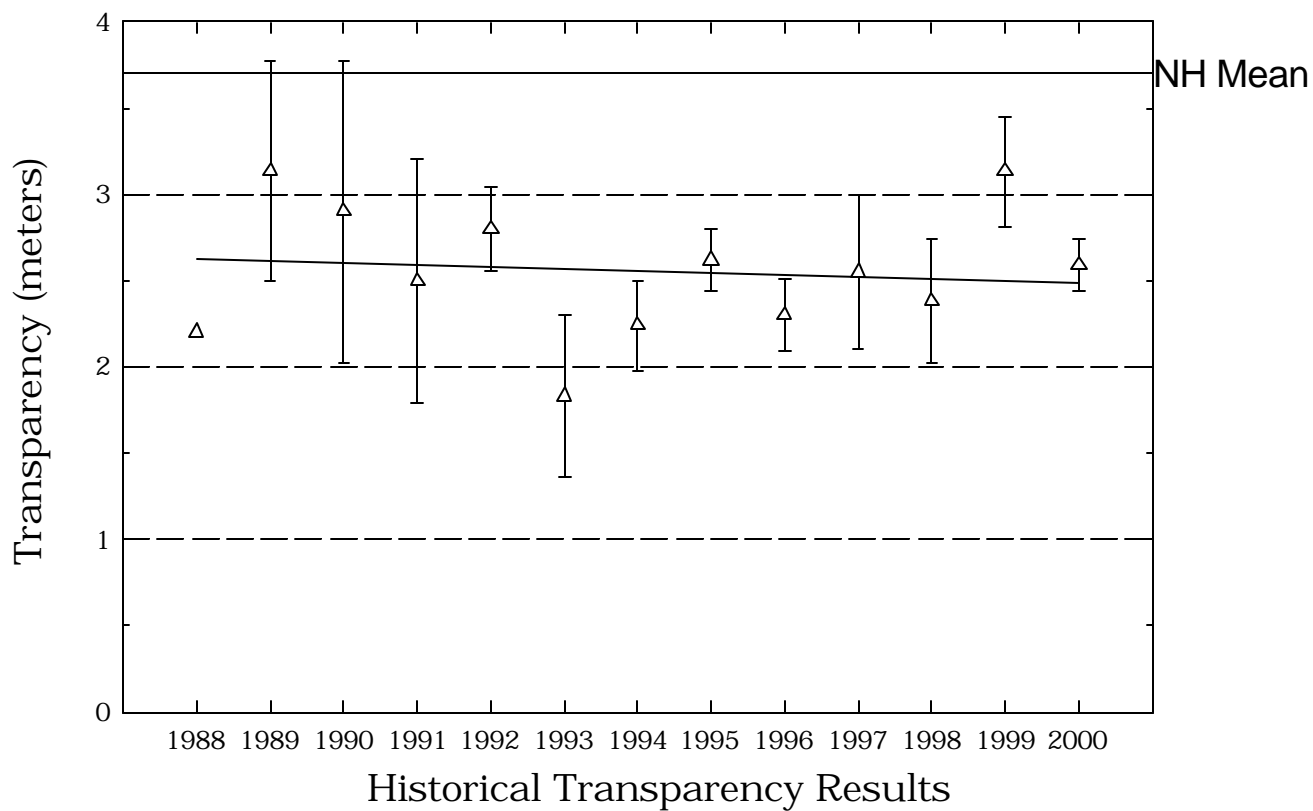
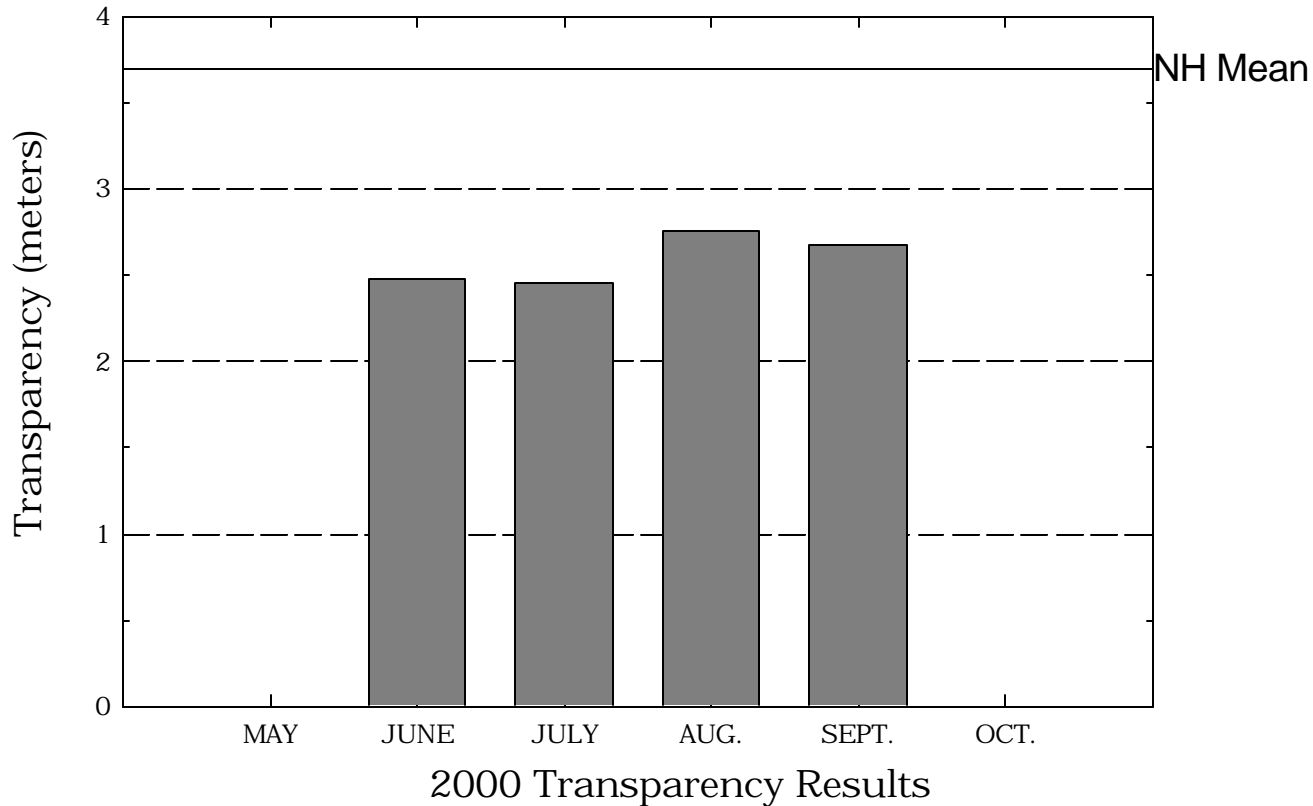
Kezar Lake

Figure 1. Monthly and Historical Chlorophyll-a Results



Kezar Lake

Figure 2. Monthly and Historical Transparency Results



Kezar Lake

Figure 3. Monthly and Historical Total Phosphorus Data.

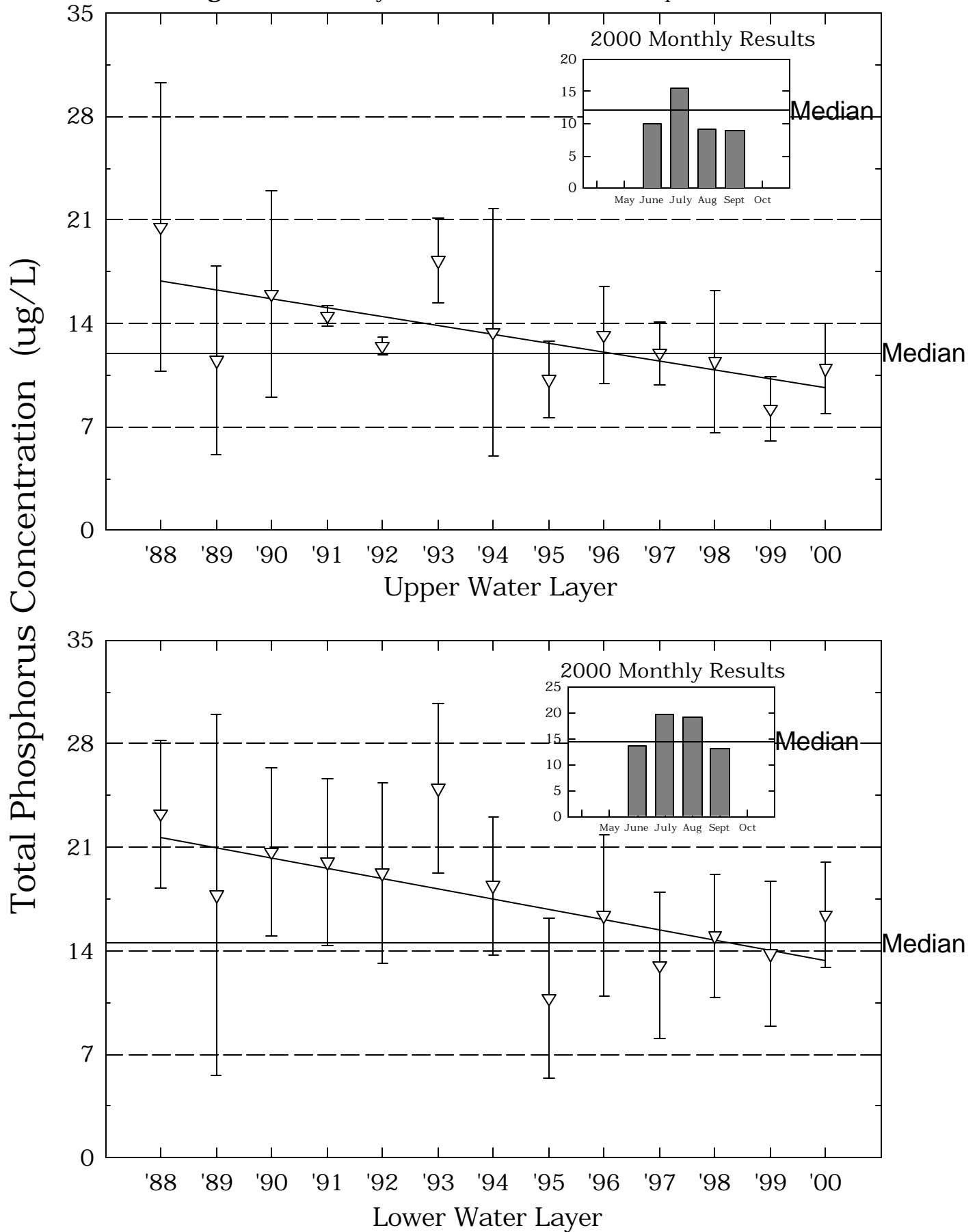


Table 1.**KEZAR LAKE
NORTH SUTTON****Chlorophyll-a results (mg/m³) for current year and historical
sampling periods.**

Year	Minimum	Maximum	Mean
1988	8.73	15.72	12.19
1989	4.70	10.20	7.55
1990	4.35	18.50	7.41
1991	4.54	10.10	6.39
1992	3.46	9.83	5.99
1993	4.50	18.65	12.34
1994	4.01	11.65	9.15
1995	2.54	10.19	5.38
1996	3.13	10.21	6.21
1997	2.06	10.64	5.87
1998	2.54	10.85	7.21
1999	4.86	8.78	6.87
2000	3.08	14.51	6.17

Table 1.

KEZAR LAKE-REPLICATE

NORTH SUTTON

**Chlorophyll-a results (mg/m³) for current year and historical
sampling periods.**

Year	Minimum	Maximum	Mean
1990	7.31	7.31	7.31

Table 2.

**KEZAR LAKE
NORTH SUTTON**

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/01/1988	MELOSIRA	88
06/19/1990	MELOSIRA	39
	DINOBYRON	19
	UROGLENOPSIS	20
07/17/1990	DINOBYRON	34
	CHRYSOPHAERELLA	29
	ASTERIONELLA	24
08/14/1990	CHRYSOPHAERELLA	64
	TABELLARIA	17
06/11/1992	ASTERIONELLA	34
	MELOSIRA	16
	DINOBYRON	14
07/08/1992	MELOSIRA	37
	CHRYSOPHAERELLA	32
	SYNEDRA	12
08/05/1992	MELOSIRA	42
	SYNEDRA	26
	TABELLARIA	20
08/27/1992	ASTERIONELLA	45
	TABELLARIA	28
	MICROCYSTIS	9
08/04/1993	APHANIZOMENON	50
	LYNGBYA	17
09/01/1994	MELOSIRA	23
	TABELLARIA	17
	STAUSTRUM	11
05/03/1995	DINOBYRON	46
	MELOSIRA	20
	FRAGILARIA	12

Table 2.

**KEZAR LAKE
NORTH SUTTON**

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/05/1995	ANABAENA	39
	ASTERIONELLA	30
	MELOSIRA	21
07/05/1995	MELOSIRA	23
	FRAGILARIA	21
	CERATIUM	14
08/07/1995	SYNEDRA	51
	DINOBRYON	18
	ANKISTRODESMUS	6
09/06/1995	SYNEDRA	46
	MELOSIRA	20
	ASTERIONELLA	15
05/07/1996	TABELLARIA	32
	MELOSIRA	29
	ASTERIONELLA	22
06/03/1996	DINOBRYON	33
	MELOSIRA	19
	ASTERIONELLA	14
07/01/1996	MELOSIRA	69
	CHRYSOPHAERELLA	21
	ASTERIONELLA	3
08/05/1996	SYNEDRA	40
	RHIZOLENIA	29
	MELOSIRA	12
09/04/1996	LYNGBYA	54
	CHRYSOPHAERELLA	28
	CERATIUM	9
05/05/1997	MELOSIRA	45
	OSCILLATORIA	25
	SYNEDRA	7
06/02/1997	MELOSIRA	48
	TABELLARIA	35
	CYCLOTELLA	6

Table 2.

**KEZAR LAKE
NORTH SUTTON**

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/30/1997	MELOSIRA	50
	TABELLARIA	34
	ASTERIONELLA	14
08/04/1997	MELOSIRA	60
	TABELLARIA	24
	SYNEDRA	9
09/11/1997	LYNGBYA	41
	MELOSIRA	26
	APHANIZOMENON	10
05/13/1998	MELOSIRA	69
	TABELLARIA	28
	ASTERIONELLA	3
07/08/1998	MELOSIRA	55
	TABELLARIA	15
	DINOBRYON	11
08/03/1998	MELOSIRA	62
	SYNEDRA	19
	TABELLARIA	13
09/09/1998	LYNGBYA	66
	SYNEDRA	13
	BLUE GREEN SPECIES	5
05/10/1999	MELOSIRA	63
	TABELLARIA	19
	ASTERIONELLA	11
06/07/1999	MELOSIRA	32
	DINOBRYON	24
	MALLOMONAS	15
07/07/1999	OSCILLATORIA	67
	MELOSIRA	15
	TABELLARIA	4
08/02/1999	MELOSIRA	40
	LYNGBA	33
	TABELLARIA	10

Table 2.**KEZAR LAKE
NORTH SUTTON****Phytoplankton species and relative percent abundance.****Summary for current and historical sampling seasons.**

Date of Sample	Species Observed	Relative % Abundance
09/08/1999	TABELLARIA	57
	MELOSIRA	40
	CHRYSOSPHAERELLA	1
06/12/2000	ASTERIONELLA	86
	ANABAENA	7
	MALLOMONAS	3
07/05/2000	MALLOMONAS	84
	RHIZOLENIA	11
	TABELLARIA	2
08/07/2000	MOUGEOTIA	25
	OSCILLATORIA	25
	MALLOMONAS	18
09/06/2000	CHRYSOSPHAERELLA	30
	MOUGEOTIA	21
	RHIZOLENIA	17

Table 2.

**KEZAR LAKE-REPLICATE
NORTH SUTTON**

**Phytoplankton species and relative percent abundance.
Summary for current and historical sampling seasons.**

Date of Sample	Species Observed	Relative % Abundance
08/14/1990	CHRYSOSPHAERELLA	64
	TABELLARIA	17

Table 3.**KEZAR LAKE
NORTH SUTTON****Summary of current and historical Secchi Disk
transparency results (in meters).**

Year	Minimum	Maximum	Mean
1988	2.2	2.2	2.2
1989	2.4	3.5	3.1
1990	1.9	3.5	2.7
1991	2.0	3.0	2.6
1992	2.5	3.5	2.9
1993	1.0	2.5	1.8
1994	1.8	2.5	2.2
1995	2.0	3.0	2.6
1996	1.8	2.6	2.2
1997	2.0	4.1	2.7
1998	2.0	2.9	2.4
1999	2.6	3.5	2.8
2000	2.2	3.1	2.5

Table 3.

**KEZAR LAKE-REPLICATE
NORTH SUTTON**

**Summary of current and historical Secchi Disk
transparency results (in meters).**

Year	Minimum	Maximum	Mean
1990	2.1	2.1	2.1

Table 4.**KEZAR LAKE
NORTH SUTTON**

**pH summary for current and historical sampling seasons.
Values in units, listed by station and year.**

Station	Year	Minimum	Maximum	Mean
EPILIMNION	1988	6.64	9.19	6.82
	1989	6.70	7.13	6.92
	1990	6.57	7.03	6.77
	1991	6.81	7.10	6.99
	1992	6.55	7.12	6.91
	1993	6.60	7.50	6.97
	1994	6.62	7.14	6.84
	1995	5.98	7.39	6.79
	1996	6.27	7.16	6.68
	1997	6.48	7.00	6.72
	1998	6.39	7.08	6.69
	1999	6.38	7.31	6.66
	2000	6.53	6.87	6.71
HOMINY POT BRIDGE	1994	6.46	6.46	6.46
HYPOLIMNION	1988	6.14	6.56	6.32
	1989	6.11	6.78	6.32
	1990	6.23	6.59	6.37
	1991	6.00	6.70	6.35

Table 4.

**KEZAR LAKE
NORTH SUTTON**

**pH summary for current and historical sampling seasons.
Values in units, listed by station and year.**

Station	Year	Minimum	Maximum	Mean
INLET	1992	6.23	6.92	6.42
	1993	6.10	7.07	6.36
	1994	6.08	6.97	6.39
	1995	6.24	6.94	6.54
	1996	5.70	6.54	6.18
	1997	6.07	6.96	6.35
	1998	5.94	6.88	6.24
	1999	6.13	6.56	6.34
	2000	6.17	6.37	6.25
INLET	1988	6.48	6.84	6.56
	1989	6.34	6.51	6.42
	1990	6.51	6.88	6.66
	1991	5.90	6.92	6.29
	1992	6.22	6.81	6.52
	1993	6.30	7.12	6.43
	1994	6.23	6.55	6.36
	1995	6.28	6.85	6.47
	1996	6.00	6.65	6.36
	1997	6.38	6.71	6.53
	1998	6.14	6.80	6.41

Table 4.

**KEZAR LAKE
NORTH SUTTON**

**pH summary for current and historical sampling seasons.
Values in units, listed by station and year.**

Station	Year	Minimum	Maximum	Mean
KING HILL BK	1999	6.30	6.96	6.43
	2000	6.37	6.96	6.58
KING HILL BRIDGE	1999	6.23	6.64	6.40
	2000	6.40	6.50	6.45
LYON BK AT LAKE	1994	7.08	7.08	7.08
	1996	6.24	6.52	6.36
LYON BK AT TRUSSEL	1992	6.43	6.43	6.43
	1993	6.65	7.10	6.83
	1994	6.94	7.35	7.06
	1995	6.88	7.26	7.04
	1996	6.56	7.36	6.83
	1997	6.25	7.57	6.99
	1998	6.76	7.27	7.03
	1999	6.47	7.26	6.88
	2000	6.37	7.07	6.86

Table 4.

**KEZAR LAKE
NORTH SUTTON**

**pH summary for current and historical sampling seasons.
Values in units, listed by station and year.**

Station	Year	Minimum	Maximum	Mean
LYON BK FEEDER 1				
	2000	5.18	5.33	5.25
LYON BK FEEDER 2				
	1999	4.85	4.85	4.85
	2000	4.83	4.84	4.83
LYON BK FEEDER 3				
	1999	5.54	5.54	5.54
	2000	5.17	5.19	5.18
LYON BK FEEDER 4				
	2000	4.90	5.05	4.97
LYON BK TO LK STAR				
	1996	6.29	6.29	6.29
OUTLET				
	1988	6.57	6.81	6.68
	1989	6.57	7.23	6.88
	1990	6.76	7.25	6.94
	1991	6.60	7.00	6.83
	1992	6.70	7.21	6.91
	1993	6.65	7.12	6.82
	1994	6.54	7.02	6.71
	1995	6.71	7.30	6.97

Table 4.

**KEZAR LAKE
NORTH SUTTON**

**pH summary for current and historical sampling seasons.
Values in units, listed by station and year.**

Station	Year	Minimum	Maximum	Mean
RT 11	1996	6.24	7.17	6.65
	1997	6.54	7.24	6.88
	1998	6.48	7.18	6.78
	1999	6.53	7.01	6.73
	2000	6.24	7.04	6.74
	1994	6.51	6.51	6.51

Table 5.**KEZAR LAKE
NORTH SUTTON**

**Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO₃.**

Epilimnetic Values

Year	Minimum	Maximum	Mean
1988	6.30	7.60	7.03
1989	5.40	8.50	7.13
1990	5.50	7.60	6.20
1991	4.60	9.10	6.66
1992	6.20	8.80	7.60
1993	5.10	12.70	8.30
1994	5.90	9.90	7.96
1995	5.50	9.10	7.48
1996	3.30	7.90	5.77
1997	4.20	6.20	5.39
1998	4.50	7.50	6.19
1999	2.10	6.40	4.40
2000	5.70	6.90	6.32

Table 6.

**KEZAR LAKE
NORTH SUTTON**

**Specific conductance results from current and historic
sampling seasons. Results in uMhos/cm.**

Station	Year	Minimum	Maximum	Mean
EPILIMNION	1988	102.2	118.8	112.6
	1989	112.5	126.3	119.9
	1990	85.6	119.7	107.7
	1991	115.4	125.4	120.6
	1992	139.4	148.5	145.0
	1993	138.0	160.5	150.5
	1994	25.5	140.1	118.8
	1995	131.2	158.2	145.7
	1996	101.5	117.0	109.5
	1997	102.9	126.0	120.3
	1998	111.7	135.2	122.8
	1999	131.0	152.6	146.3
	2000	131.9	139.0	134.7
HOMINY POT BRIDGE	1994	241.0	241.0	241.0
HYPOLIMNION	1988	106.3	123.0	115.9
	1989	110.8	126.5	120.1
	1990	93.5	119.3	110.1
	1991	115.4	136.0	122.9

Table 6.

**KEZAR LAKE
NORTH SUTTON**

**Specific conductance results from current and historic
sampling seasons. Results in uMhos/cm.**

Station	Year	Minimum	Maximum	Mean
	1992	137.8	154.0	149.5
	1993	144.7	174.9	156.5
	1994	108.2	166.0	131.7
	1995	131.0	157.1	145.3
	1996	100.3	120.7	109.6
	1997	102.2	128.7	119.1
	1998	104.4	136.9	119.3
	1999	133.1	152.6	146.9
	2000	125.8	140.4	134.7
INLET	1988	139.7	197.0	164.3
	1989	112.3	177.7	149.0
	1990	109.0	157.9	131.3
	1991	135.6	202.0	172.8
	1992	174.0	233.6	203.5
	1993	197.0	320.0	249.0
	1994	108.6	236.0	169.9
	1995	2.0	226.1	184.9
	1996	114.5	178.1	151.6
	1997	133.7	259.4	204.4

Table 6.

**KEZAR LAKE
NORTH SUTTON**

**Specific conductance results from current and historic
sampling seasons. Results in uMhos/cm.**

Station	Year	Minimum	Maximum	Mean
	1998	123.1	241.0	185.0
	1999	185.5	361.6	241.7
	2000	133.6	221.0	167.0
KING HILL BK				
	1999	21.9	245.0	75.0
	2000	25.5	31.3	28.8
KING HILL BRIDGE				
	1994	37.7	37.7	37.7
LYON BK AT LAKE				
	1996	154.5	166.2	160.3
LYON BK AT TRUSSEL				
	1993	121.0	398.0	304.4
	1994	108.5	313.0	229.4
	1995	143.0	284.0	210.9
	1996	127.6	230.9	178.8
	1997	140.9	331.0	229.3
	1998	112.2	290.0	204.9
	1999	212.2	521.9	298.3
	2000	147.2	267.0	216.8
LYON BK FEEDER 1				
	1999	37.3	37.3	37.3

Table 6.

**KEZAR LAKE
NORTH SUTTON**

**Specific conductance results from current and historic
sampling seasons. Results in uMhos/cm.**

Station	Year	Minimum	Maximum	Mean
LYON BK FEEDER 2	2000	59.8	73.4	66.8
	1999	21.8	24.8	23.3
	2000	20.8	23.0	22.1
LYON BK FEEDER 3	1999	25.1	25.4	25.2
	2000	20.8	22.4	21.8
LYON BK FEEDER 4	1999	25.9	25.9	25.9
	2000	23.4	24.3	23.8
LYON BK TO LK STAR	1996	126.4	126.4	126.4
	1988	104.0	120.0	112.5
	1989	111.1	125.1	119.3
OUTLET	1990	85.0	118.8	107.9
	1991	114.5	124.0	119.3
	1992	139.5	151.6	145.3
	1993	138.0	161.3	149.5
	1994	107.8	140.0	125.5
	1995	129.6	154.9	144.0
	1996	100.6	116.6	108.7
	1997	99.8	126.5	119.3

Table 6.

**KEZAR LAKE
NORTH SUTTON**

**Specific conductance results from current and historic
sampling seasons. Results in uMhos/cm.**

Station	Year	Minimum	Maximum	Mean
RT 11	1998	114.5	136.3	123.9
	1999	132.1	151.3	146.8
	2000	122.7	159.5	135.5
	1994	163.0	163.0	163.0

Table 8.

**KEZAR LAKE
NORTH SUTTON**

**Summary historical and current sampling season Total
Phosphorus data. Results in ug/L.**

Station	Year	Minimum	Maximum	Mean
BAXTER DOCK	1993	15	15	15
EPILIMNION	1988	14	35	20
	1989	2	15	11
	1990	11	24	16
	1991	6	16	12
	1992	12	16	13
	1993	3	29	19
	1994	7	28	12
	1995	6	14	10
	1996	9	20	13
	1997	9	25	13
	1998	7	30	13
	1999	1	13	8
	2000	7	30	11
HYPOLIMNION	1988	16	27	23
	1989	7	35	17
	1990	16	27	20
	1991	10	26	17
	1992	12	27	18

Table 8.

**KEZAR LAKE
NORTH SUTTON**

**Summary historical and current sampling season Total
Phosphorus data. Results in ug/L.**

Station	Year	Minimum	Maximum	Mean
INLET	1993	1	30	22
	1994	11	45	21
	1995	2	20	14
	1996	7	21	16
	1997	9	32	18
	1998	9	23	15
	1999	8	26	16
	2000	13	26	17
	1988	10	45	26
	1989	11	37	19
	1990	18	27	22
	1991	11	39	29
	1992	18	29	24
	1993	8	235	39
	1994	16	34	22
	1995	8	38	25
	1996	5	30	18
	1997	9	31	21
	1998	10	41	19

Table 8.

**KEZAR LAKE
NORTH SUTTON**

**Summary historical and current sampling season Total
Phosphorus data. Results in ug/L.**

Station	Year	Minimum	Maximum	Mean
	1999	16	43	24
	2000	5	27	14
KING HILL BK				
	1999	2	61	26
	2000	< 5	18	11
LOWMAN GRAB				
	1991	9	9	9
LYON BK AT LAKE				
	1996	15	24	19
LYON BK AT TRUSSEL				
	1992	97	97	97
	1993	7	54	22
	1994	8	28	20
	1995	5	132	30
	1996	5	27	16
	1997	8	117	32
	1998	5	35	14
	1999	8	22	14
	2000	6	38	16
LYON BK FEEDER 1				
	1999	2	2	2
	2000	8	15	12

Table 8.

**KEZAR LAKE
NORTH SUTTON**

**Summary historical and current sampling season Total
Phosphorus data. Results in ug/L.**

Station	Year	Minimum	Maximum	Mean
LYON BK FEEDER 2	1999	5	31	18
	2000	15	18	16
LYON BK FEEDER 3	1999	8	14	11
	2000	6	16	11
LYON BK FEEDER 4	1999	4	4	4
	2000	6	18	11
LYON BK TO LK STAR	1996	18	18	18
NORTH END	1991	11	11	11
OUTLET	1988	10	16	13
	1989	1	20	9
	1990	8	17	14
	1991	5	12	9
	1992	10	27	13
	1993	2	109	25
	1994	7	15	11
	1995	5	19	9
	1996	7	22	12

Table 8.

**KEZAR LAKE
NORTH SUTTON**

**Summary historical and current sampling season Total
Phosphorus data. Results in ug/L.**

Station	Year	Minimum	Maximum	Mean
	1997	7	32	14
	1998	5	16	10
	1999	5	13	8
	2000	5	51	15
SWAMP OUTLET	1995	34	34	34

Table 9.
KEZAR LAKE
NORTH SUTTON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 12, 2000			
0.1	17.7	8.1	84.6
1.0	17.7	8.0	84.5
2.0	17.7	8.0	84.0
3.0	16.7	7.3	75.1
4.0	15.6	6.6	66.5
5.0	14.3	6.0	58.8
6.0	12.0	4.5	41.8
7.0	10.4	1.0	9.3
July 5, 2000			
0.1	24.3	5.7	68.3
1.0	24.3	5.5	66.0
2.0	24.3	5.5	65.7
3.0	24.1	5.3	63.2
4.0	16.1	1.0	10.5
5.0	14.0	0.3	3.0
6.0	13.5	0.5	4.5
6.5	13.7	1.1	10.7
August 7, 2000			
0.1	21.3	6.9	77.4
1.0	21.3	6.6	74.4
2.0	21.3	6.5	73.0
3.0	19.3	4.5	49.2
4.0	18.1	3.6	37.7
5.0	17.0	2.8	28.8
6.0	14.3	0.7	6.6
7.0	13.1	0.9	8.4
7.5	12.3	1.0	9.5

Table 9.
KEZAR LAKE
NORTH SUTTON

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
September 6, 2000			
0.1	19.9	7.5	82.5
1.0	19.6	7.4	80.9
2.0	19.4	7.5	81.1
3.0	19.4	7.5	81.5
4.0	19.2	7.5	81.5
5.0	18.5	4.0	42.7
6.0	15.0	0.7	7.2
7.0	13.4	0.8	7.9

Table 10.

**KEZAR LAKE
NORTH SUTTON**

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 1, 1988	6.5	10.0	2.7	24.0
June 23, 1988	7.5	11.5	-0.5	0.0
June 20, 1989	6.5	11.0	0.0	0.0
June 19, 1990	7.5	11.0	0.8	7.0
July 17, 1990	7.0	13.0	0.5	4.7
August 14, 1990	8.0	13.0	0.2	1.9
June 13, 1991	7.0	12.8	0.0	0.0
June 28, 1991	7.0	13.6	0.0	0.0
July 11, 1991	7.3	13.0	0.0	0.0
July 25, 1991	6.5	15.0	0.2	2.0
August 8, 1991	6.5	15.7	0.3	3.0
August 22, 1991	7.5	14.2	0.5	4.9
June 11, 1992	7.5	10.0	0.3	2.6
July 8, 1992	7.5	9.5	0.6	5.2
August 5, 1992	7.5	11.0	0.2	1.8
August 4, 1993	6.0	17.5	0.3	3.0
September 1, 1994	6.9	14.8	0.4	4.0
May 3, 1995	7.5	9.5	8.4	72.0
June 5, 1995	7.5	11.0	0.0	0.0
July 5, 1995	6.0	13.1	0.3	3.0
August 7, 1995	6.5	14.7	0.2	2.0
September 6, 1995	7.0	15.3	0.2	2.0
May 7, 1996	7.5	8.0	4.3	36.0
June 3, 1996	6.0	13.0	4.3	41.0
July 1, 1996	6.5	9.8	0.3	3.0
August 5, 1996	7.5	11.7	0.2	2.0
September 4, 1996	7.0	13.5	0.2	2.0
May 5, 1997	7.0	9.2	6.6	56.0

Table 10.

**KEZAR LAKE
NORTH SUTTON**

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
June 2, 1997	7.5	11.9	3.4	31.0
June 30, 1997	7.0	12.2	0.4	4.0
August 4, 1997	7.0	12.7	0.3	3.0
September 3, 1997	8.0	14.8	0.4	4.0
May 13, 1998	7.0	10.0	5.7	50.0
July 8, 1998	6.5	14.3	0.3	3.0
August 3, 1998	7.0	14.1	0.2	2.0
September 9, 1998	7.0	14.3	0.3	3.0
May 10, 1999	7.0	10.6	10.5	92.0
June 7, 1999	7.0	13.1	0.6	6.0
July 7, 1999	8.0	14.3	7.7	75.5
August 2, 1999	7.0	14.8	0.5	5.0
August 2, 1999	7.0	14.8	0.5	5.0
September 8, 1999	7.0	15.3	0.3	2.5
June 12, 2000	7.0	10.4	1.0	9.3
July 5, 2000	6.5	13.7	1.1	10.7
August 7, 2000	7.5	12.3	1.0	9.5
September 6, 2000	7.0	13.4	0.8	7.9

Table 11.

**KEZAR LAKE
NORTH SUTTON**

**Summary of current year and historic turbidity sampling.
Results in NTU's.**

Station	Year	Minimum	Maximum	Mean
EPILIMNION	1993	1.3	6.9	2.9
	1994	1.5	2.1	1.7
	1997	0.5	1.3	0.9
	1998	0.7	2.1	1.1
	1999	0.7	1.1	0.8
	2000	0.6	0.9	0.7
HYPOLIMNION	1993	1.9	6.1	3.6
	1994	1.8	9.9	5.2
	1997	0.8	6.5	1.8
	1998	1.1	9.4	3.5
	1999	1.0	6.2	2.5
	2000	1.3	6.5	2.2
INLET	1993	1.1	3.6	2.0
	1994	1.1	4.4	2.6
	1997	0.9	2.8	1.6
	1998	0.5	6.5	1.7
	1999	0.9	2.7	1.8

Table 11.

**KEZAR LAKE
NORTH SUTTON**

**Summary of current year and historic turbidity sampling.
Results in NTU's.**

Station	Year	Minimum	Maximum	Mean
KING HILL BK	2000	0.4	2.1	1.1
	1999	0.1	10.6	4.1
	2000	0.2	0.7	0.4
LYON BK AT TRUSSEL	1993	0.2	1.8	0.6
	1994	0.5	2.1	1.2
	1997	0.1	0.8	0.4
	1998	0.2	4.2	0.6
	1999	0.2	0.8	0.4
	2000	0.2	1.3	0.5
LYON BK FEEDER 1	1999	0.6	0.6	0.6
	2000	0.2	0.8	0.6
LYON BK FEEDER 2	1999	0.2	0.9	0.5
	2000	0.2	0.5	0.3
LYON BK FEEDER 3	1999	0.1	0.5	0.3
	2000	0.1	0.6	0.4
LYON BK FEEDER 4	1999	0.1	0.1	0.1
	2000	0.1	0.2	0.2

Table 11.

**KEZAR LAKE
NORTH SUTTON**

**Summary of current year and historic turbidity sampling.
Results in NTU's.**

Station	Year	Minimum	Maximum	Mean
OUTLET	1993	1.1	7.0	2.5
	1994	1.2	2.0	1.6
	1997	0.5	5.2	1.1
	1998	0.5	2.2	0.9
	1999	0.4	1.9	0.7
	2000	0.4	2.4	0.7